UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/421,846	10/20/1999	JEAN-MARC ANDREOLI	R/97005Q	4669

7590 04/20/2004	EXAMINER
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ART UNIT	PAPER NUMBER
2176	25

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 25

Application Number: 09/421,846
Filing Date: October 20, 1999
Appellant(s): ANDREOLI ET AL.

James A. Oliff, and Klifton L. Kime
For Appellant

EXAMINER'S ANSWER

⌐ MAILED ⌐

APR 2 0 2004

Technology Center 2100

This is in response to the appeal brief filed February 2, 2004.

(1) **_Real Party in Interest_**

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention as recited from page 1 to top of page 8 (section A) contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that all claims stand or fall together.

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

5,794,233	RUBINSTEIN	8-1998
5,963,938	WILSON ET AL.	10-1999
5,404,294	KARNIK	4-1995
5,721,897	RUBINSTEIN	2-1998

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 8, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubinstein

(hereinafter Rubinstein '233), U.S. Patent No. 5,794, 233 issued August 1998, in view of Wilson et al.

(hereinafter Wilson), U.S. Patent No. 5,963,938 issued October 1999.

In regard to independent claim 1, Rubinstein '233 teaches:

Obtaining document constraint descriptors via logical combinations of keywords searchable

in documents (Rubinstein '233 Abstract, Figure 2 item 250; compare with claim 1 "*A method for obtaining*

document constraint descriptors....the method comprising").

Attribute values as disclosed by relevance codes associated with keywords, said codes ranking the

importance of each keyword, with said keywords used in forming logical relation queries for searching

documents (Rubinstein '233 Figure 2 item 206, 208, 250, column 3 lines 34-44, column 4 lines 4-10; compare

with claim 1 *"receiving ....attribute -value relations that can apply to documents"*).

Obtaining logical relations via inclusion of keywords into logic panes to produce logically joined

expressions (Rubinstein '233 Figure 2 item 242, 246, column 4 lines 17-30; compare with claim 1 *"using.....to*

obtain logical relations equivalent to the attribute-value relations").

Using said logically joined expressions to obtain a displayed constraint descriptor set as applied for

document searching (Rubinstein '233 Figure 2 item 250, column 4 lines 49-56; compare with claim 1 *"using the*

logical relations to obtain a document constraint descriptor defining a set of one or more constraints equivalent

to the logical relations.").

The limitation of user signals would have been obvious to one of ordinary skill in the art at the time of

the invention, in view of Rubinstein '233, because Rubinstein '233 teaches keyword selection using "drag and

drop" (Rubinstein '233 column 4 lines 10-16), as well as input fields for entering data (Rubinstein '233 Figure 2

items 215, 250), which suggests user signals, providing Rubinstein '233 the capability and advantage of user

interactivity (compare with claim 1 *"user signals"*).

Rubinstein'233 teaches a query input indicative of a logical relation and a feature (Rubinstein'233

Figure 2 item 250; compare with claim 1 *"a feature"*). Rubinstein'233 does not specifically teach a sort.

However, Wilson teaches selection of arguments, operations, and relations, said logical function may be sorting,

or other operation (Wilson column 3 lines 45-55; compare with claim 1 *"one of a sort"*). It would have been

obvious to one of ordinary skill in the art at the time of the invention to apply Wilson to Rubinstein'233,

providing Rubinstein'233 the benefit of incorporating sorts for convenient arrangement of related/ranked results.

Rubinstein'233 does not specifically teach obtaining descriptors and logical relations "without requiring

user intervention". However, Wilson teaches a query interface encompassing Boolean operators for relating

logical operations. Subsequent to user signals (a user changing an operator), Wilson automatically (without user

intervention) makes necessary changes and divisions in Boolean groupings within relations, resulting in proper

constraints (Wilson column 7 lines 12-21, column 12 lines 34-48; compare with claim 1 *"without requiring user*

intervention"). It would have been obvious to one of ordinary skill in the art at the time of the invention to apply

Wilson to Rubinstein.233, providing Rubinstein'233 the benefit of automatic modification of relations to match

user changes, which releases the burden of modification from the user.

In regard to dependent claim 2, Rubinstein '233 teaches a cursor control device, as well as a mouse

and keyboard for a user to use in order to create logical relations (Rubinstein '233 Figure 4 item 406, column 7

lines 55-60; compare with claim 2).

In regard to dependent claims 3, 4, 5, Rubinstein '233 teaches a computer with a cursor control

device, as well as a mouse and keyboard for a user to use in order to create logical relations

(Rubinstein '233 Figure Figure 4 item 406, column 7 lines 55-60; compare with claims 3, 4, 5).

In regard to dependent claim 8, Rubinstein '233 teaches presenting a graphical user interface image

allowing a user to create a logical query, said image including presentation of a document constraint descriptor

(Rubinstein '233 Figure 2 item 200, 250; compare with claim 8). In addition, Rubinstein '233 teaches a

computer with RAM memory for storing data (Rubinstein '233 column 7 lines 49-53).

In regard to independent claim 13, Rubinstein '233 teaches:

Obtaining document constraint descriptors via logical combinations of keywords searchable

in documents (Rubinstein '233 Abstract, Figure 2 item 250; compare with claim 13 *"A machine for obtaining*

document constraint descriptors....the machine comprising").

A processor, and a graphical user interface (Rubinstein '233 column 7 lines 41-48, Figure 2,3; compare

with claim 13 *"a processor; and user interface circuitry for providing user signals to the processor"*).

Attribute values as disclosed by relevance codes associated with keywords, said codes ranking the

importance of each keyword, with said keywords used in forming logical relation queries for searching

documents (Rubinstein '233 Figure 2 item 206, 208, 250, column 3 lines 34-44, column 4 lines 4-10; compare

with claim 13 *"receiving ….attribute -value relations that can apply to documents"*).

Obtaining logical relations via inclusion of keywords into logic panes to produce logically joined

expressions (Rubinstein '233 Figure 2 item 242, 246, column 4 lines 17-30; compare with claim 13 *"using….*

logical relations equivalent to the attribute-value relations").

Using said logically joined expressions to obtain a displayed constraint descriptor set as applied for

document searching (Rubinstein '233 Figure 2 item 250, column 4 lines 49-56; compare with claim 13 *"using*

the logical relations…. a document constraint descriptor defining a set of one or more constraints equivalent to

the logical relations.").

Rubinstein'233 teaches a query input indicative of a logical relation and a feature (Rubinstein'233

Figure 2 item 250; compare with claim 13 *"a feature"*). Rubinstein'233 does not specifically teach a sort.

However, Wilson teaches selection of arguments, operations, and relations, said logical function may be sorting,

or other operation (Wilson column 3 lines 45-55; compare with claim 13 *"one of a sort"*). It would have been

obvious to one of ordinary skill in the art at the time of the invention to apply Wilson to Rubinstein'233,

providing Rubinstein'233 the benefit of incorporating sorts for convenient arrangement of related/ranked

results.

The limitation of user signals would have been obvious to one of ordinary skill in the art at the time of

the invention, in view of Rubinstein '233, because Rubinstein '233 teaches keyword selection using "drag and

drop" (Rubinstein '233 column 4 lines 10-16), as well as input fields for entering data (Rubinstein '233 Figure 2

items 215, 250), clearly suggest user signals, providing Rubinstein '233 the capability and advantage of user

interactivity (compare with claim 13 *"user signals"*).

Rubinstein'233 does not specifically teach obtaining descriptors and logical relations without requiring

user intervention. However, Wilson teaches a query interface encompassing Boolean operators for relating

logical operations. Subsequent to user signals (a user changing an operator), Wilson automatically (without user intervention) makes necessary changes and divisions in Boolean groupings within relations, resulting in proper constraints (Wilson column 7 lines 12-21, column 12 lines 34-48; compare with claim 13 "*without requiring user intervention*"). It would have been obvious to one of ordinary skill in the art at the time of the invention to apply Wilson to Rubinstein.233, providing Rubinstein'233 the benefit of automatic modification of relations to match user changes, which releases the burden of modification from the user.

In regard to dependent claim 14, Rubinstein '233 teaches a general purpose microcomputer (Rubinstein '233 column 7 lines 41-43; compare with claim 14).

In regard to dependent claims 15, 16, Rubinstein '233 teaches creation of a logical relation query, resulting in a subset of returned documents (Rubinstein Abstract, column 5 lines 54-61; compare with claim 15

Rubinstein '233 teaches presenting a graphical user interface image allowing a user to create a logical query, said image including presentation of a document constraint descriptor, said image also including a document file with a displayed portion (Rubinstein '233 Figure 2 item 200, 221, 250, 270; compare with claim 16).

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubinstein '233, and Wilson as applied to claim 1 above, and further in view of Karnik, U.S. Patent No. 5,404,294 issued April 1995.

In regard to dependent claims 6-7, Rubinstein '233 does not specifically teach input of a medium (i.e. paper form) via scanner, said medium containing printed values filled in by a user, wherein said values are subsequently read and analyzed. However, Karnik teaches a human readable pre-printed IRS form with values

filled in by a user. The form is scanned, the values are read, and a mathematical formula is applied to certain inputted values (Karnik Figure 5, column 1 lines 53-57, 64-67, column 3 lines 60-64, column 6 lines 8-17; compare with claims 6-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to apply Karnik to Rubinstein '233, providing Rubinstein '233 the capability of querying data from inputted IRS forms for statistical purposes.

Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubinstein '233, and Wilson as applied to claim 1 above, and further in view of Rubinstein (hereinafter Rubinstein '897), U.S. Patent No. 5,721,897 issued February 1998.

In regard to dependent claim 9, Rubinstein '233 does not specifically teach a network. However, Rubinstein '897 teaches creating logical relations utilizing the Internet, which is indicative of a network (Rubinstein '897 column 12 lines 40-47; compare with claim 9). It would have been obvious to on of ordinary skill in the art at the time of the invention to apply Rubinstein '897 to Rubinstein '233, providing Rubinstein '233 the capability of gathering data and communication with a plurality of users during a session.

In regard to dependent claims 10-12, Rubinstein '233 teaches presenting a graphical user interface image allowing a user to create a logical query, said image including presentation of a document constraint descriptor, said image including document references, portions of are displayed. Rubinstein '233 also teaches a printer (Rubinstein '233 Figure 2 item 200, 221,250, 270, column 8 lines 1-3; compare with claims 10-12).

(11)   Response to Argument

Page 12 to middle of page 16 (section V, subsection A) of Appellant's Appeal Brief (hereinafter the

Brief) is directed towards Appellant's discussion of relevant Law. Beginning on page 16 (subsection B) of the

Brief, Appellant argues the following issues, which are accordingly addressed below.

To avoid confusion, the Board is reminded of the examiner's differentiation between the two Rubinstein

patents (cited as Rubinstein '233, and Rubinstein '897).

a.   *"However, the query pane 250 only provides for user input terms and does not obtain or display a*

document constraint descriptor defining a set of one or more constraints equivalent to the logical relations",

etc… (middle of page 17, of the Brief, also essentially repeated on page 25).

The examiner respectfully disagrees. The examiner respectfully wishes to point out that the only portion

of representative claim 1 that requires any sort of user interaction is limitation (A), which recites in pertinent

part *"receiving user signals indicating….".*

The disclosed invention of Rubinstein '233 is exemplified by Figure 2, which displays a GUI interface

for formulating custom queries, resulting in eventual retrieval of relevant documents (see Rubinstein '233

Abstract, especially first sentence). Rubinstein teaches a user constructing a query by inputting directly into box

250, or by dragging keyword phrases from pane 205, and dropping said phrases into pane 242. In both cases

user input is used via keyboard and/or mouse, therefore, it is clearly obvious that the system is receiving "user

signals".

The two phrases within pane 205 contain associated relevance codes indicating the keyword's

importance relative to other keywords (i.e. its ranking – a form of attribute value, a value associated with a

particular document's attributes, and can be applied to documents), said ranking used by the user in the selection

making process (the ranking is generated via linguistic analysis – see Rubinstein '233 column 3 lines 32-44).

Accordingly, selection of key word phrases for inclusion is based at least in part on the user's analysis of the

displayed relevance codes, resulting in the formulation of a logical expression query (based in part on said

relevance code analysis) for searching documents.

Appellant argues at middle of page 17, (as well as on page 25, and elsewhere) of the Brief, that

Rubinstein '233 does not teach *"document constraint descriptors"*. The examiner respectfully notes that the

formulated query in Figure 2 item 250 is a logical expression indicative of "logical relations", which are

required in order to give meaning to said expression (i.e. a logical expression is as least associated with an

equivalent logical relation). Since the logical expression in item 250 serves to constrain the corpus of

documents, said expression is a form of "document constraint descriptor", because the expression components

work as a whole to describe a body of documents "constrained" by said expression.

b.   *"There is no disclosure in Rubinstein '233 that the user enters attribute values. Rubinstein '233, for*

example, never discloses any attribute value relationships, and the Final Office Action fails to indicate where

any such attribute value relationship ellegedly exist in Rubinstein '233". (page 17 at bottom, of the Brief, also

at top of page 18)

The examiner respectfully disagrees. It is respectfully submitted that representative claim 1 does not

require a user to enter "values" .Instead, said claim recites in pertinent part, "receiving user signals indicating a

set of attribute value relations...". Rubinstein '233 uses linguistics to formulate relevance code values associated

with keywords. The purpose of said codes (Figure 2 item 208) is to define the relative importance of keywords

relative to the other listed keywords (a form of ranking). Since the user can select keywords based at least in part

on said rankings, the resulting keyword combination reflects a (logical) expression/relation which is at least

implicitly based on the associated importance code.

c.   *"Even if such relationships were entered, which they are not, the relationships obtained by*

Rubinstein '233 are merely ANDing of search terms together and have nothing to do with obtaining logical

relations equivalent to attribute-value relations input by a user." (page 18 at bottom, of the Brief, also repeated

on page 21)

The examiner respectfully disagrees. As explained above, a formulated query (i.e. Figure 2 item 250) is

a logical expression indicative of "logical relations", which are required in order to at least give meaning to said

expression. The Boolean AND, OR, etc. define the logical expressions, as well as having an association with the

underlying logical relations (see also above).

d.   *"Appellants respectfully submit that the specification of Wilson never defines a 'sort'"* (page 19

bottom, to page 20 middle, of the Brief, also bottom of page 25).

The examiner respectfully disagrees. Appellant argues on pages 19-20 that the sort defined by Wilson

differs from Appellant's definition. The examiner respectfully notes that a computer associated "sort" is a term

of art reflective of an algorithm/code specifically used for ordering data in a particular order. The skilled artisan

is cognizant of the various types of sorting algorithms available and known in the art, and is aware of the general

definition of this term. It is respectfully submitted that without further clarification of the claimed "sort" within

Appellant's claimed invention, the examiner can apply the broadest possible interpretation of this term within

the scope of the relevant art (and within the general context of the claims). Wilson definitely uses a "sort" in the

context of a computer algorithm used for organizing data.

e.　　*"Appellants do not understand what automating a particular decision step in a Boolean operation has to do with the overall process of using user signals, without user intervention, ...one or more constraints equivalent to the logical relations."* (page 21 near top, of the Brief)

The examiner respectfully disagrees. The examiner uses Wilson to teach Appellant's claimed limitation of *"without requiring user intervention"*. Wilson teaches a query interface encompassing Boolean operators for relating logical operations. Subsequent to user signals (i.e. a user changing an operator), Wilson automatically (without user intervention) makes necessary changes and divisions in Boolean groupings within relations, resulting in proper constraints. The examiner applies Wilson to Rubinstein.233, providing Rubinstein'233 the benefit of automatic modification of relations to match user changes, which releases the burden of modification from the user.

f.　　*"With respect to claims 15 and 16, neither Rubinstein '233 nor Wilson discloses a document constraint descriptor or using a document constraint descriptor to solve a set of one or more constraints to obtain a solution."* (page 22 at middle, of the Brief)

The examiner respectfully disagrees. Rubinstein '233 teaches creation of a logical relation query, resulting in a subset of returned documents. Rubinstein '233 also teaches presenting a graphical user interface image allowing a user to create a logical query, said image including presentation of a document constraint descriptor, said image also including a document file with a displayed portion. The examiner interprets claims 15 and 16 as searching for a "solution", via returning target documents matching a user query, said documents including an item reference (i.e. a clickable reference) (see also Rubinstein '233 column 6 lines 11-16).

g.   "...the final Office Action completely fails to establish a motivation to combine these references"

(page 23 at middle, of the Brief).

The examiner respectfully disagrees. Rubinstein '233 does not specifically teach input of a medium (i.e.

paper form) via scanner, said medium containing printed values filled in by a user, wherein said values are

subsequently read and analyzed. However, Karnik teaches a human readable pre-printed IRS form with values

filled in by a user. The form is scanned, the values are read and said scanned form data can be retrieved later

(Karnik Abstract). Scanning IRS forms provides Rubinstein '233 the capability of querying data from said

inputted forms for statistical purposes. The IRS typically groups a taxpayer's data with various form documents

(i.e. 1040, etc.), therefore document related data can be stored in a retrievable database, from which Rubinstein

'233 can draw from via its query system (the IRS relies heavily upon statistical analysis), and Rubinstein '233

does not limit the type of document required for query.

h.   *"The Final Office Action does not even address these positively recited features, thereby denying*

Appellants fundamental procedural and substantive due process under the Administrative procedures Act."

(page 24 at middle, of the Brief).

The examiner respectfully disagrees. The examiner interprets claim 9 (limitation G) to mean: obtaining

a solution, and returning the target documents matching the solution. It is respectfully submitted that the whole

point of Rubinstein '233 is to formulate a query to (hopefully) return a set of documents matching said query,

therefore facilitating a solution (see also Rubinstein '233 column 6 lines 11-16, Figure 2 item 221, which deals

with selection of returned documents identified by a query expression).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER

William L. Bashore
April 19, 2004

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